Richard S. Leghorn
218 WEST MAIN STREET
HYANNIS, MASSACHUSETTS 02601

TEL: (508) 771-8300
FAX: (508) 771-8301

ORIGINAL

May 7, 1997

Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

Dear Sir:

Enclosed are the original and nine copies of our **Reply Comments** on the industry proposal for rating video programming (CS Docket No. 97-55). Our understanding is that one of these copies will be made available to each of the Commissioners.

Sincerely,

The Children's Television Consortium
d.b.a. OKTV™ (Our Kids TV)

By: _____
Richard S. Leghorn, President

RSL/mrm

Enclosures

ORIGINAL

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	}	**REPLY COMMENTS**
	}	
The Industry Proposal for Rating Video Programming	}	CS Docket No. 97-55
	}	
	}	

May 8, 1997

To: The Commission

Reply Comments of OKTV™ (Our Kids TV)

In response to comments filed April 8, these Reply Comments first elaborate the need for, and the particulars of an open system for transmitting ratings information by way of line 21 of the vertical blanking interval. Second, OKTV health based services are elaborated to further inform the Commission that, given such an open system, at least one alternative service will be available which is specifically designed to help parents reduce the risks of harm in television programs and which also will satisfy widely voiced shortcomings of the industry proposal.

Especially to be noted is that an open system for transmitting rating information will still be needed should the Commission find the industry's proposal unacceptable and take steps to organize a government sponsored rating service as required by Section 551 of the 1996 Act. Because an open system will be needed whether the Commission finds the industry proposal acceptable or unacceptable, or defers its determination, the Commission should immediately address the communications issues involved.

A material change has been made from OKTV's comments of April 8. Rather than rely on voluntary adoption by the industry of an open system for transmitting rating information, OKTV now recommends, at least until television becomes universally digital, the Commission prescribe a must-carry solution to assure industry carriage of independent rating services by way of line 21 of the Vertical Blanking Interval. Only rating services which address the compelling government interest identified by Congress in Section 551 would qualify for carriage.

I. There is sufficient "data space" available in the Vertical Blanking Interval of line 21 to accommodate a number of child-protection rating services in addition to the industry's.

To accommodate a number of rating services over line 21 of the VBI and to enable each service to provide content information sufficient to enable parents to make informed choices of what may or may not be harmful to their children, the data transmitted by each service must adhere to common specifications. It is essential (1.) to specify a data structure for rating information, (2.) to specify a protocol for transmission of that data and (3.) to specify minimum functionalities to be provided by blocking circuits in consumer electronic equipment (TV sets and set-tops). While Section 551 might be narrowly construed to relate only to television receivers , the need exists and the Commission has authority to include television set-tops in its specifications for minimum blocking technology.

Collectively, these requirements are referred to in this document as an open communications systems for ratings information or, briefly, the open system. Appendix A sets forth illustrative specifications for such an open system prepared by consultant Bill Perlman. They are basically the same as discussed in OKTV Comments of April 8,

but with clarifying particulars, and are now resubmitted (1.) to reconfirm that the data space available on line 21 of the VBI can deliver the data of more services than the ratings services of the television industry and (2.) to indicate that an alternative to either the industry proposal or a government sponsored solution will be available once an open system is in place. OKTV will welcome informal comments about this proposed open system before its final comments in this proceeding are due on June 16.

Briefly, the Perlman proposal will accommodate eight ratings services. Because of the economics involved, it is highly unlikely that a need will develop for more services during the remaining period of analog television. Each service will be able to transmit hierarchically up to six descriptive degrees (levels) for up to six categories of content information. This proposed structure of a ratings data group will accommodate ratings services offered by HBO and Showtime, and as proposed to the Commission by the television industry January 17. It will also accommodate a ratings service such as tested in Canada, or a service patterned on the RSAC service for video cassettes, or a program blocking service consistent with the principles enunciated April 8 in comments of VideoFreedom, Inc. (but not their proposal to block elements of a program). Further, it is consistent with the principles of PICS, the uniform specifications developed at MIT for blocking devices on the Internet. And it will accommodate the health-based services of OKTV as set forth in comments of April 8 and described more fully below. It will also accommodate health-based services of The National Institute on Media and the Family (NIMF) appropriately modified to activate blocking technology. Efforts are now under way to integrate these two health based services with the objective that one service focused on issues of child and public health will be ready for operations once the Commission prescribes an open system for transmitting rating information.

Use of line 21 of the VBI as a common carrier is not proposed and should not be contemplated. There is not sufficient data space to accommodate services other than those serving the compelling government interest in child protection.

An open system for transmitting rating information could be adopted voluntarily by the industry under Commission supervision as suggested in the April 8 comments of OKTV. As proposed, only services responsive to the Congressional mandate of Section 551 would qualify for carriage of such rating data.

On the other hand, the Benton Foundation in comments filed April 8 suggested that communications of rating information over line 21 of the VBI be accorded "must-carry" status. This suggestion has considerable merit. At the moment, industry reluctance to voluntarily adopt an open system unfortunately is as palpable as a stone wall. Unless the industry by June 16 has a change of heart, an unlikely prospect, the Commission should move swiftly to adopt appropriate must- carry and related rules for a uniform data structure and equipment functionality. The public need is just too great to countenance delays, such as the four years it has taken for industry to agree on specifications on merely analog aspects of the "cable-ready set " matter. If alternative services are to have an opportunity to meet the compelling governmental interest articulated in Section 551, prompt prescription of must-carry and related rules is essential.

On the presumption that such must-carry rules would be narrowly tailored to serve the compelling government interest set forth in Section 551, and because such rules would be content neutral, they should clearly withstand Constitutional attack on First Amendment grounds.

It should be noted that the data space over line 21 of the VBI is the most restricted data channel available. Ratings information that can be transmitted over that channel, and more, can be readily accommodated by way of out-of-band analog transmissions or upcoming digital transmissions.

II. The manner in which OKTV will use the proposed open system will meet short-comings of the industry proposal as stated by a large number of commenters.

OKTV has reviewed the comments of the sixty parties who filed formal comments on April 8 and many e-mail submissions. The primary complaint is that the industry proposal is flawed because it does not provide specific content information about the nature of the upcoming programming. For example, parents do not know why a particular program is rated TVPG or TV14. They are not informed that the program contains or doesn't contain certain categories of content, levels of intensity, frequency and the like. OKTV look-up capability, described in (1.) below is designed to meet such concerns, and is supplemented by print and Website distribution of OKTV Content Reports.

Other issues raised in April 8 comments include the desire to be served by qualified independent raters including child development experts and parents, as opposed to self-rating by the industry. Also, wishes are expressed that standards and rating criteria be disclosed. These complaints are accommodated by the OKTV program.

Perhaps the most telling criticism relates to incompatibilities between the industry proposal and the need for parents to be able to make full use V-chip technology. A rating system based on warning labels does handicap the use of blocking technology because warning labels do not specify what content to block. By avoiding warning labels, the OKTV system maximizes the potentials of blocking technology to empower parents as envisioned by the Congress.

In addition to a common ratings data structure and transmission protocol, the open system requires specifications for blocking technology as required by Section 551(c)3. Four minimum functionalities should be specified: (1.) the capability to block a program based on its overall rating level; (2.) the capability to automatically display the rating on-screen (OKTV does not propose to use such a capability, although others do); (3.) the capability for "look-up" display of the appraised degree of each of six content categories; and (4.) the capability to block by comparing appraised content levels against parental choices of the maximum level for each content category they determine their children can view. While the latter capability involves a small cost that equipment manufacturers may prefer to avoid, because of widely expressed parental wishes, and Congress' concerns, this capability to block based on a parent's content prescription may be the most important of all.

Assuming the availability of an open system for transmitting rating information, and the equipment functionalities noted above, OKTV will present parents with the opportunity to use their remote control to easily select from five OKTV capabilities: (1) content look-up; (2) basic blocking; (3) custom blocking; (4) program override; and (5) prolonged child protection.

1. OKTV Content Look-up

This capability will enable parents, upon entering a request with their remote control, to call up for display on the program then showing, the degree of risk of harm of that program for each of the six content categories appraised by OKTV. For reasons detailed in OKTV's April 8 comments, this content information will not be displayed on-screen automatically at the beginning of each program, but only when requested by a parent. Depending on the design of the television receiver, these displays can take the form of a line of text or a bar chart (*see figure 1*). Content Reports, as illustrated in appendix B of OKTV's April 8 comments, will be publicized and be made available to parents through a variety of print channels and the OKTV Website (*see figure 2 for an abbreviated form of those print reports*).

Most importantly it should be noted that this OKTV look-up capability does not require blocking technology in the home, and thus can be made immediately available to all TV homes, regardless of the source of their TV service, upon the adoption of specifications for an open ratings system.

As noted in figures 1,2 and 3, the letters used by OKTV represent in decreasing order for potential harm, the six content categories of Violence (V), Horror (H), Illegal and Harmful behavior (I), Sex (S), Language (L) and Nudity (N). The associated number for each content symbol indicates the level or degree of risk of harm with the number five being the most harmful. OKTV's appraisal process evaluates each show thoroughly to identify content whose portrayals are deleterious or harmful. Please refer to Appendix B of OKTV's April 8 comments for a full description of the six content categories.

Figure 1. OKTV content look-up; parents can review the program's content while in progress. The example depicts two possible formats for on-screen look-up during the program of content information appraised for the children's cartoon Taz Mania.

Text **V⑤ H③ I⑤ S① L⑤ N☺**

Bar Chart

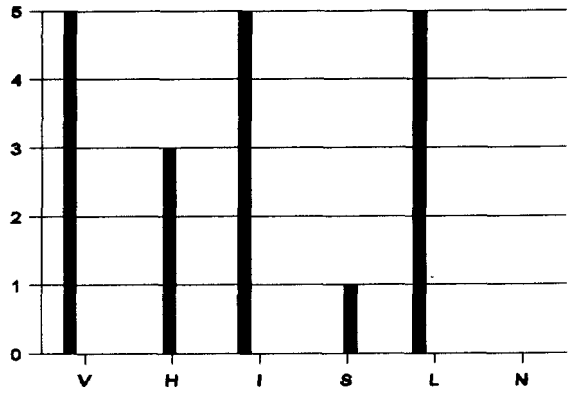

Figure 2. Abbreviated Content Report for print and Website distribution.

Program: Taz Mania Genre: Cartoon

Appraisal Code: NOT OK for children under age 13

Categories	Levels of Risks	Content
V	⑤	Frequent physical violence with no negative consequences
H	③	Humanlike characters harmed or threatened with no help available for the victim
I	⑤	Depictions of overeating, hitting people, destruction of property that young children can imitate
S	①	Subtle acts of sexual seduction
L	⑤	Several stereotyping remarks toward the elderly not repudiated such as "old geezer", "simpleton"
N	☺	None

All terms for each category are defined as OKTV terminology. These terms are used in appraising all programs, and will be made publicly available.

2. OKTV Basic Blocking

Anecdotal material gathered during the National PTA Survey indicate that at least some parents would use age advice "if they knew" independent "child development specialists" were involved in the ratings. OKTV's basic blocking capability will be useful to parents who are content to use ages as guidelines to degrees of risks, who have come to trust the system, and who find it inconvenient to set up blocking customized to the individual needs of their child or family (*see below*). The parent sets the system for the most appropriate audience designation from the five available: two available for children viewing alone ("OK-3" for ages over three or "OK-8" for ages over eight) or the three available for co-viewing ("OK-T" for toddlers up to three years, and "OKC-3" and "OKC-8" for co-viewing with children respectively three and eight years and over). The levels of risk of harm are typical for these viewing audiences based on an integration of medical and social research with a consensus of parental views on what may or may not be harmful to children irrespective of other societal values they may hold.

3. OKTV Custom Blocking

To avail of this capability, parents using their remote control select the level of risk for each content category which they determine is appropriate for their child or their family's viewing (*see figure 3 for example*). Then when the levels of risk of the individual program are transmitted from the OKTV database by way of line 21 of the VBI, the program is blocked if the level of any category exceeds the level which the parent has programmed into the system. In other words the parent selecting OKTV service relies on OKTV to evaluate degrees of risk for each content category of each program, but the parent determines what degrees are appropriate for their child or family's viewing.

Figure 3. Custom Blocking; degrees of risk are set by the individual to determine the appropriate levels for their family. This example shows how one might choose to customize their blocking system, depending on the maturity and emotional development of their child. This example shows violence, horror and sex content set by the parent to level 1, and illegal or harmful behavior, language and nudity set to level 3.

Custom Blocking						
Levels of Risk	*Violence*	*Horror*	*Illegal Harmful*	*Sex*	*Language*	*Nudity*
5						
4						
3			3		3	3
2						
1	1	1		1		
0						
Enter PIN	*	*	*	*	*	*

4. OKTV Program Override

By entering a personal identification number (PIN) through the remote control, the parent can open or block any particular program based on information received from critical viewing magazines, program guides, over the backyard fence, or whatever. Because they can easily override the system at any time, the parent is always in control.

5. OKTV Prolonged Protection

It is expected that parents normally will choose to have protective blocking operate automatically, for example, from 6 am to 9 pm, day in and day out. However, there may be times when they wish to have the service work for 24 hours or many days. This is readily accomplished through their remote control. And of course, if parents want to leave the system open for adult viewing 24 hours a day, or for a number of days, the blocking services can be shut off for that time period, again using their remote control.

In sum, the primary purpose here is not to "sell" OKTV services, but to inform the Commission that there is a credible alternative to the industry proposal which is well developed and will be further developed and marketed to parents when there is a means available for distributing its rating codes by way of line 21 of the VBI. The Commission needs to know not only that there is sufficient data space to accommodate alternative rating systems, but also that credible plans are in place to provide parents with a non-industry, non-government service once the open communications issue is resolved by the Commission.

III. The OKTV system enables parents to separate audiences viewing programs OK for children from audiences viewing programs intended for adults and inappropriate for children.

From the perspective of the commercial interests of the television industry, enabling parents to protect their children by separating child audiences from adult audiences has major benefits. The implications for First Amendment and market freedoms are most important. Ironic as it may seem, children are currently the greatest impediment to First Amendment freedoms of the television industry. These freedoms

today are restricted by government actions designed to protect children who may be in the audience. Safe harbor and other restrictions designed to protect children are discussed in the April 8 comments of OKTV.

From the perspective of commercial sales and profits, because parents can separate the two audience groups (child from adult) the system enables producers, advertisers and distributors of TV programming intended for adults to more freely provide adults with the entertainment and information they want without limiting its content because children may be in the audience. When OKTV services are broadly available, this feature should contribute significantly to increased revenues and profits.

IV. Whether the Commission finds the industry proposal acceptable or unacceptable, or defers a decision pending further testing or modifications, there is no reason the Commission should not promptly address the communications issues involved in an open system for ratings information.

As Congressional commenters noted April 8, it is unfortunate that the Commission has interpreted Section 551 to require it to address issues of ratings before considering the communications issues involved. This procedural error can and should be immediately corrected. Rating *desiderata* must be considered in the framework of data communications possibilities and constraints when using line 21 of the VBI.

Also of great concern is the major setback to the interests of parents and children which would occur if the Commission were to find the industry proposal unacceptable and embark on the long and constitutionally uncertain course of a government sponsored rating system before prescribing an open system. Alternative services, such as the health based services of OKTV and The National Institute on Media and the Family (NIMF), would not be available to parents while government deals with the constitutional roadblocks which the industry assures will be erected "in a nanosecond".

From the perspective of Congressional intent, one might additionally note that assuming a child will view the same number of hours per week, blocking out harmful material means the child will be more often exposed to beneficial material. An OKTV analysis indicates that this effect will benefit children more than the requirement that broadcasters program three hours a week of beneficial material. Also this effect from blocking programs unsuitable for children will enhance incentives for the creative community to produce more programs beneficial to children. Clearly, the sooner blocking begins, the better.

If the Commission finds the industry proposal unacceptable and if the government should prevail in the constitutional argument, the service government proposes to sponsor will also require communicating rating information by way of line 21 of the VBI. If on the other hand the Commission finds the industry proposal acceptable, it must also resolve the system for communicating rating information. In other words, why wait?

It is not for government to decide which is a better system, but for the Commission to require open technology for implementing alternative rating systems including the industry's. Then parents can decide which is better for his or her family.

The Commission has issued a notice concerning en banc hearings June 24 (a) on the industry proposal and (b) on blocking technology. OKTV respectfully requests an opportunity to be heard June 4.

Respectfully submitted,
The Children's Television Consortium
d.b.a. **OKTV™** (**O**ur **K**id's **TV**)

By: 

Richard S. Leghorn
May 8, 1997

APPENDIX A

Ashfield Consulting Group, Inc.
PO Box 259
40 Suburban Drive
Ashfield, MA 01330
413 628-0221 v
413 628-0244 f

This is a proposal of an implementation of the Congressional mandate for a V-chip function in television receiving devices. This proposal is for an open system allowing for multiple raters to disseminate their information for use by parents. This is by no means a finished product, nor does it intend to cover every aspect of the complete "system" required for an open system. The functions of access to programs and data insertion are left to later studies as are many of the details of the data structure, transmission protocol and function described here. What is shown, is the feasibility of an open system.

This model is designed with a number of goals in mind.

- Utilize an existing transmission protocol. Specifically EIA 608A which has data formats sufficient for holding the ratings data, and a well designed method of inserting data into an video stream.

- Allow for the continued use of existing ratings and advisory systems, including the MPAA movies ratings, and the HBO/Showtime advisories.

- Allow room for the currently existing proposals for rating systems. This would include the Industry system, OKTV and the Canadian system currently being tested.

- To answer the requests of the society for a system based not only on age, but content, one that is responsive to parental needs, and one that can be customized by parents to better meet the needs of their specific households.

This proposal is divided into two parts, the first describing the data structure and how it fits into the EIA 608A standard, and the second describing the minimum operational functions of the system.

Part 1, V-CHIP Data Definition and Protocol

The Electronics Industries Association first sent the proposed standards revision of EIA-608 on February 12, 1996 for an acceptance vote by its membership. Called EIA-608A, it added the field 2 services to the original Closed Captioning Standard. The deadline for the comment period was May 28, 1996. The work was prepared by the EIA R-4.3 subcommittee on television data systems. At that time, the standard contained two bytes of program rating data as section 05h of Part 6, "Extended Data Service Packets". These were aimed at televised motion pictures and contained the MPAA rating for the film and content advisories jointly developed and used by HBO and Showtime for violence, sexual content and mature content.

When the telecommunications bill passed, and a "V-chip" standard was mandated by Congress, this two byte section of 608A was removed from the standard pending the outcome of the various committees' work on a new rating system. This leaves the door open for a new standard which will serve both the industry and the consumer in the best possible way.

From an operational standpoint, two key factors override. First is the amount of data in the packet, and the second is the repetition rate of the data during the program. These two factors control the latency from the time a channel is requested by the viewer to the time the picture appears. It is not sufficient to have the data present only at the start of the program. The picture will not appear until the data is received and compared to the desired setting. The data must be continually transmitted to ensure availability to the receiver as quickly as possible.

Countering this demand is the need for sufficient data and requirements for the other services carried by line 21 field two. The data packet must be long enough to contain as much information as necessary to make the system useful to consumers and yet not take up all of the bandwidth of the channel. It is with these constraints in mind that the following two proposal are offered. In the first I have provided for the information originally in 608A, the proposed data of the Valenti Implementation Group, and an open platform for other independent rating organizations to disseminate their data as separate sections of the data packet. The second version combines the data by not differentiating between industry and independent ratings. The second version is the more efficient of the two.

Version 1
Definitions

MPAA rating: Active only if the program is a film, codes must contain both NR (not rated) and N/A not applicable to differentiate between a movie that has not been rated, and a program that is not a movie. Size: 3 bits mp0, mp1, mp2

Valenti Implementation Group ratings (Industry ratings): This currently contains six categories, and should also contain codes for N/A for not applicable (like news and sports which are not rated) and NR for programs which have not been rated yet. Size 3 bits tv0, tv1, tv2

Independent Ratings supplier ID: The size of this data will depend on the number of ratings supplier can reasonably be anticipated. Assume 3 bits for now, giving 8 suppliers. Id0, id1, id2

Independent Ratings data: Assume 6 categories plus NR and N/A. Size 3 bits ir0, ir1, ir2

Explanatory Data Identifier: A required overhead datum indicating that optional data follows.

Explanatory Data: This data could be used to expand on the Independent Ratings data, to indicate the reasons for the rating and to give content advisories. Assume five categories with up to eight levels each.

Using EIA-608A protocol for line 21 field 2 as a standard the following data transmission groupings evolve. Note that because the ratings data is not ASCII, then bit 6 must be set to a 1. This results in an effective byte size of six bits.

Data definitions

MPAA movie ratings

mp2	mp1	mp0	rating
0	0	0	N/A
0	0	1	G
0	1	0	PG
0	1	1	PG-13
1	0	0	R
1	0	1	NC-17
1	1	0	X
1	1	1	NR

TV Industry ratings

tv2	tv1	tv0	rating
0	0	0	N/A
0	0	1	TVY
0	1	0	TVY17
0	1	1	TVG
1	0	0	TVPG
1	0	1	TV14
1	1	0	TVM
1	1	1	NR

Movie content advisories from the original 608A proposal

v1	v0	Advisory level
0	0	no violent content
0	1	V1
1	0	V2
1	1	V3

s1	s0	Advisory level
0	0	no sexual content
0	1	S1
1	0	S2
1	1	S3

m1	m0	Advisory level
0	0	no mature content
0	1	M1
1	0	M2
1	1	M3

An example of an independent rating would be that of OKTV. Using its protocol as an example, the independent byte would be defined as follows.

Independent rater ID

Id2	id1	id0	group
0	0	0	tbd
0	0	1	OKTV
0	1	0	tbd
0	1	1	tbd
1	0	0	tbd
1	0	1	tbd
1	1	0	tbd
1	1	1	tbd

OKTV rating example

ir2	ir1	ir0	rating
0	0	0	N/A
0	0	1	OK toddlers
0	1	0	OK 3 and over
0	1	1	3 and over Co-view
1	0	0	OK 8 and over
1	0	1	8 and over Co-view
1	1	0	reserved for future
1	1	1	not rated

Following the age rating of the independent agency, would be a 3 byte field containing sufficient information for defining the basis for the rating. Five categories are allowed for.

Violence

ev2	ev1	ev0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Sexual content

es2	es1	es0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Language

el2	el1	el0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Horror

eh2	eh1	eh0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Illegal or harmful acts

ei2	ei1	ei0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Timing and latency considerations are of utmost importance. The optimal system contains enough data to actuate blocking switches and explain the ratings being offered, and does so in a timely manner which does not significantly degrade the perceived operation of the television set. The following offers some rough examples of the time requred to transmit this proposed data set under three conditions, 1 independent rater, 4 independent raters, and the unlikely example of 8 independent rating systems all transmitting at once.

Assuming two extra bytes for housekeeping, the timing comes out as follows.

raters	bytes	lines	total time to transmit
1	8	4	266 mS
4	20	10	660 mS
8	36	18	1.2 Sec.

As can be seen, a repetition rate of every 5 seconds or so would not present a problem. At that rate a viewer would have to wait an average of 2.5 seconds for the television to tune to a channel while the v-chip function is active. A rate of 3 seconds would lower the average latency to 1.5 seconds. This is long by tuner design standards, but would only occur when the television has the v-chip activated.

Version 2

Ratings supplier ID: The size of this data will depend on the number of ratings suppliers can reasonably be anticipated. Assume 3 bits for now, giving 8 suppliers. Id0, id1, id2

Ratings data: Assume 6 categories plus NR and N/A. Size 3 bits r0, r1, r2

Explanatory Data: This data could be used to expand on the Independent Ratings data, to indicate the reasons for the rating and to give content advisories. Assume six categories with up to eight levels each.

Using EIA-608A transmission protocol for line 21 field 2 as a standard the following data transmission groupings evolve. Note that because the ratings data is not ASCII, then bit 6 must be set to a 1. This results in an effective byte size of six bits

Transmission protocol

Character	b6	b5	b4	b3	b2	b1	b0
independent id and rating	1	ID2	ID1	ID0	R2	R1	R0
Explanatory data byte 1	1	V2	V1	V0	S2	S1	S0
Explanatory data byte 2	1	L2	L1	L0	H2	H1	H0
Explanatory data byte 3	1	I2	I1	I0	n2	n1	n0

Independent rater ID

Id2	id1	id0	group
0	0	0	TV Industry
0	0	1	MPAA
0	1	0	OKTV
0	1	1	tbd
1	0	0	tbd
1	0	1	tbd
1	1	0	tbd
1	1	1	tbd

Violence

V2	V1	V0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Sexual content

s2	s1	s0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Language

L2	L1	L0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Horror

h2	h1	h0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

Illegal or harmful acts

i2	i1	i0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

nudity

n2	n1	n0	rating
0	0	0	N/A
0	0	1	none
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	extreme
1	1	1	NR

For version 2 of the protocol the timing calculations yield a shorter time for transmission by two bytes for each example. This will decrease the latency further from the version 1 examples given above. Assuming two extra bytes for housekeeping, the timing comes out as follows.

raters	bytes	lines	transmit time
1	6	3	199 mS
4	18	9	599 mS
8	34	17	1.13 Sec.

Part 2, Functional Description

The creation of a useful system requires more than just a chip and a transmission protocol. To meet the societal demands for an open system allowing for a number of raters to publish their opinions, various aspects of the system must be defined and standardized prior to implementation. This allows for uniform operation of the system, and the prevention of obsolescence of parts of the system like television sets and data handling equipment. Among the aspects of the system that must be defined are the data structure, transmission protocol and at least a minimum functional definition for data content and consumer interface. In this way every consumer device will know what to expect and how to act when the V-Chip system is activated. Here I will describe a set of minimum requirements for both raters and television sets to allow for an open system.

Two types of data are required. The first is a single level representing the recommended viewing group based on age, degree of risk, intensity or other hierarchical measure. Space for six levels are provided. This will allow the receiving device to react to a single byte and block the program based on a comparison of the parent's chosen level and that of the program.

In addition, there is room for up to six content categories each with its own six levels. To qualify, raters should be required to use a minimum of these categories ie. three namely violence, language and sexuality, the other three, horror, nudity and illegal acts are optional.

These content data can then be used in one of two ways. First a parent can call up a visual display of the data to learn the basis of the rating. The form of the display is not specified. Also a parent can choose to ignore the single rating byte and will be able to set their own levels in each category. The receiving device will then compare the parents levels to that of the program and block the program if the level is exceeded in any category.

Figure 1 is a graphic example of the content data.

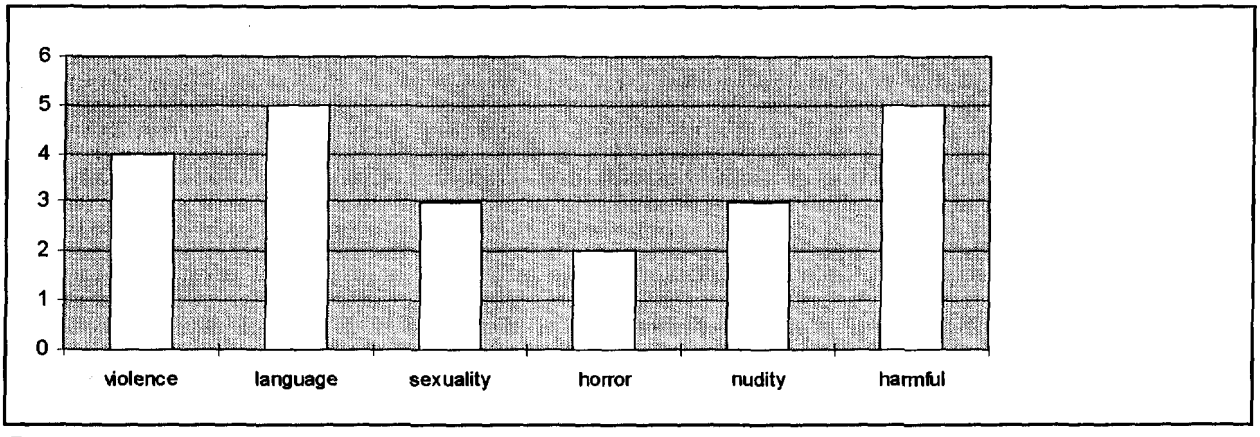

Figure 1

In Figure 2 a parents' choice is compared to program content. In this case, the program would be seen since none of the program content exceeds the parents limits

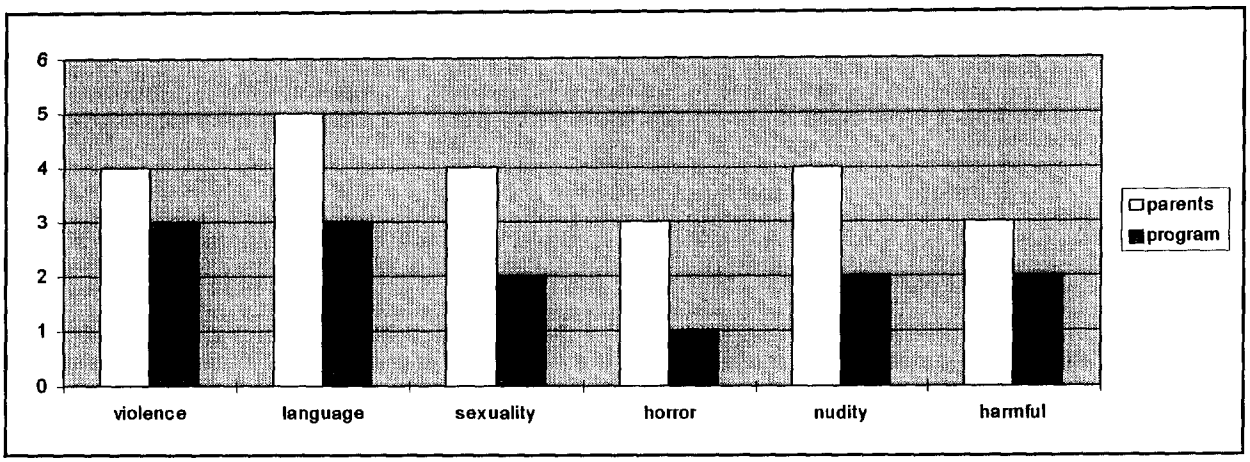

Figure 2

Figure 3 shows a program that would be blocked because the parents' limits are exceeded in two cases, language and horror.

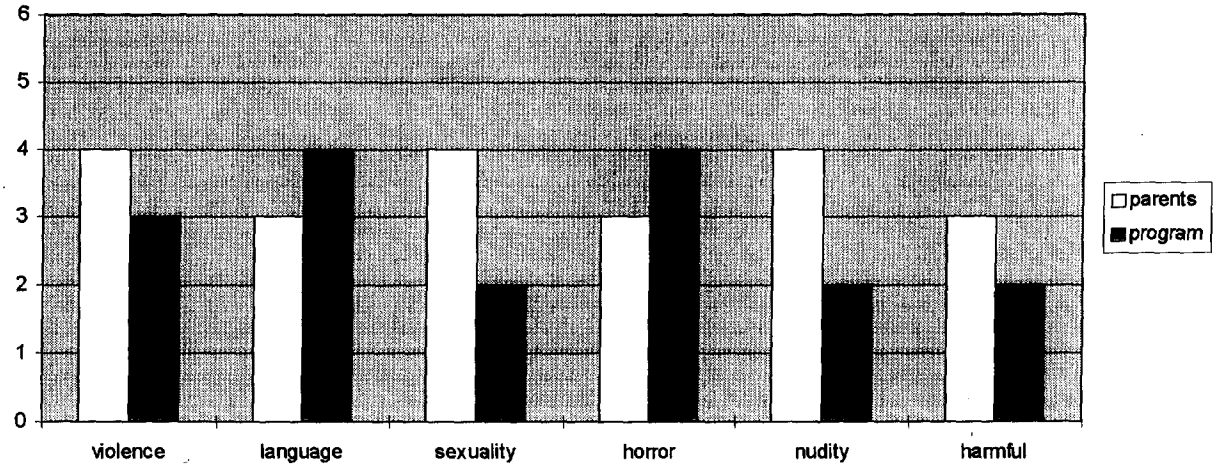

Figure 3

This proposal designed and prepared by:
Bill Perlman
President,
Ashfield Consulting Group, Inc.
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